Datasheet for ABIN3095631

STK3 Protein (AA 1-491) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	STK3
Protein Characteristics:	AA 1-491
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This STK3 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MEQPPAPKSK LKKLSEDSLT KQPEEVFDVL EKLGEGSYGS VFKAIHKESG QVVAIKQVPV ESDLQEIIKE ISIMQQCDSP YVVKYYGSYF KNTDLWIVME YCGAGSVSDI IRLRNKTLIE DEIATILKST LKGLEYLHFM RKIHRDIKAG NILLNTEGHA KLADFGVAGQ LTDTMAKRNT VIGTPFWMAP EVIQEIGYNC VADIWSLGIT SIEMAEGKPP YADIHPMRAI FMIPTNPPPT FRKPELWSDD FTDFVKKCLV KNPEQRATAT QLLQHPFIKN AKPVSILRDL ITEAMEIKAK RHEEQQRELE EEEENSDEDE LDSHTMVKTS VESVGTMRAT STMSEGAQTM IEHNSTMLES DLGTMVINSE DEEEEDGTMK RNATSPQVQR PSFMDYFDKQ DFKNKSHENC NQNMHEPFPM SKNVFPDNWK VPQDGDFDFL KNLSLEELQM RLKALDPMME REIEELRQRY TAKRQPILDA MDAKKRRQQN F **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**

Product Details

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and

Product Details

	Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	STK3
Alternative Name:	STK3 (STK3 Products)
Background:	Serine/threonine-protein kinase 3 (EC 2.7.11.1) (Mammalian STE20-like protein kinase 2) (MST-2) (STE20-like kinase MST2) (Serine/threonine-protein kinase Krs-1) [Cleaved into: Serine/threonine-protein kinase 3 36 kDa subunit (MST2/N), Serine/threonine-protein kinase 3 20 kDa subunit (MST2/C)],FUNCTION: Stress-activated, pro-apoptotic kinase which, following caspase-cleavage, enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation. Key component of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. The core of this pathway is composed of a kinase cascade wherein STK3/MST2 and STK4/MST1, in complex with its regulatory protein SAV1, phosphorylates and activates LATS1/2 in complex with its regulatory protein MOB1, which in turn phosphorylates and inactivates YAP1 oncoprotein and WWTR1/TAZ (PubMed:23972470). Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration. STK3/MST2 and STK4/MST1 are required to repress proliferation of mature hepatocytes, to prevent activation of facultative adult liver stem cells (oval cells), and to inhibit tumor formation. Phosphorylates NKX2-1 (By similarity). Phosphorylates NEK2 and plays a role in centrosome disjunction by regulating the localization of NEK2 to centrosome, and its ability to phosphorylate CROCC and CEP250 (PubMed:21723128). In conjunction with SAV1, activates the transcriptional activity of ESR1 through the modulation of its phosphorylation. Positively regulates RAF1 activation via suppression of the inhibitory phosphorylation of RAF1 on 'Ser-259'. Phosphorylates MOBKL1A and RASSF2. Phosphorylates MOBKL1B on 'Thr-74'. Acts cooperatively with MOBKL1B to activate STK38. {ECO:0000250|UniProtKB:Q9JI10, ECO:0000269|PubMed:15688006, ECO:0000269|PubMed:16930133, ECO:0000269|PubMed:18328708, ECO:0000269|PubMed:18362890, ECO:0000269|PubMed:19525978, ECO:0000269|PubMed:20212043, ECO:0000269|PubMed:21076410,

Target Details

	ECO:0000269|PubMed:21104395, ECO:0000269|PubMed:21723128, ECO:0000269|PubMed:23972470, ECO:0000269|PubMed:28087714, ECO:0000269|PubMed:8566796, ECO:0000269|PubMed:8816758}.
Molecular Weight:	56.3 kDa
UniProt:	Q13188
Pathways:	Tube Formation

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process

